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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/786,163 | 02/28/2001 | Dorit Wolf | WOLF, D. ET AL-1PCT | 4075 |
| 7590 08/08/2006 | | | EXAMINER | |
| Collard & Roe 1077 Northern Boulevard Roslyn, NY 11576 | | | KOSLOW, CAROL M | |
| | | | ART UNIT | PAPER NUMBER |

1755

DATE MAILED: 08/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|------------------------------------|--|
| Office Action Summary | Application No. 09/786,163 | Applicant(s) WOLF ET AL. | |
| | Examiner C. Melissa Koslow | Art Unit 1755 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3-15, 18 and 19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3-15, 18 and 19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 February 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>2/28/01</u> . | 6) <input type="checkbox"/> Other: _____ |

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A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 13 February 2006 has been entered.

Applicant's arguments with respect to claims 17 and 18 have been considered but are moot in view of the new grounds of rejection.

The previous restriction requirement is withdrawn as being improper. Upon further consideration, the election of species requirement is withdrawn. Thus claims 3-15, 18 and 19 will be examined.

Applicants should disregard the previous Examiner's comments with respect to priority. Since this application is the national stage or a 371 of PCT application PCT/DE99/02956, it is automatically granted the effective filing date of 10 September 1999.

Applicant's claim for foreign priority under 35 U.S.C. 119(a) and 37 CFR 365(b) is acknowledged. However, the German application upon which priority is claimed fails to provide adequate support under 35 U.S.C. 112 for claims 18 and 19 of this application. The subject matter of claim 18 is not found in the German priority document DE 19843242.9. With respect to the subject matter of claim 19, the German priority document contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention for the same reasons as this application, discussed below. Thus it does not meet under 35 U.S.C. 112, first

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paragraph and accordingly applicants are not entitled to the filing date of German priority document DE 19843242.9.

The information disclosure statement filed 28 February 2001 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because it is a duplicate of the considered information disclosure statement filed 17 September 2001. It has been placed in the application file, but the information referred to therein has not been considered as to the merits. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609 ¶ C(1).

The disclosure is objected to because of the following informalities: The first paragraph of the specification states that applicants claim priority under 35 USC 120 to PCT application PCT/DE99/02956. All the other papers filed show that this application is a national stage or a 371 of PCT application PCT/DE99/02956. The statement in the specification needs to be corrected. On page 2, line 2, a period should appear before "4" in the citation of the reference DE-A-19731990.4. The specification teaches the nonexistent element "Ka". The process of step c is indefinite since it is unclear how the probabilities W_{cat} , W_A , W_B , W_D and W_t actually relate to the determination of the compositions of formula I in each n_{th} generation. It is also unclear how pre-set probabilities are randomly generated, since the phrase "pre-set" means determined before hand and thus are not random. The x variables in tables 4 and 6 are not defined. If x has the same meaning as p, which 0-0.75, then there is a question if these materials have the given

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formula since catalyst have a neutral valence state and those disclosed are not neutral since the maximum molar amount of oxygen is 0.75. The compositions in tables 5, 7 and 8 do not contain oxygen and thus are not those of tables 4 and 6. The process on page 18 would lead one of ordinary skill in the art to expect the catalyst of tables 5, 7 and 8 to be oxides, but this is not indicated by these tables. Appropriate correction is required.

Claims 18 and 19 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

There is no disclosure in the specification or the originally filed claims of a catalyst having the formula $V_{0.19}Mn_{0.24}Fe_{0.32}Ga_{0.25}O_x$. Table 8 teaches a catalyst having the formula $V_{0.19}Mn_{0.24}Fe_{0.32}Ga_{0.25}$. Thus claim 18 is new matter. Step a of claim 19 is new matter. The specification teaches the first generation of catalyst is prepared from primary components which are already known to be catalytic or which will form catalysts, while step a of claim 19 does not include this limitation.

Claim 19 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The preamble teaches the method can produce organometallic catalyst, but an organometallic catalyst meeting the requirements of formula I cannot be formed. Organometallic catalysts contain organic groups which contain multiple carbons and hydrogen atoms. Formula I

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teaches each A is a different element, thus excluding compounds having more than one hydrogen atom.

For one of ordinary skill in the art to perform step a in this claim, undue experimentation would be required since the catalyst art is an unpredictable art and one would have to test each and every embodiment of formula I, except for those already known, in order to determine if the resulting compound is a catalyst or not. In addition there is no criteria given to limit the millions of possible compounds that result from formula I to 5 to 100,000 compounds.

Claim 19 is rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for producing hydrogenation catalysts does not reasonably provide enablement for form producing any and all inorganic and organometallic catalyst. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims.

Claims 3-15, 18 and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 3-15 are indefinite since they depend upon canceled claim 17. Claim 18 is indefinite since the variable x is not defined. If x has the same meaning as p, then this compound is not a catalyst since it has a negative valence state and catalysts, by definition, have a neutral valence state. It is also unclear how the catalyst of claim 18 relates to the process of claim 19. Claim 19 is indefinite since it includes the non-existent element "Ka". In addition, claim 19 is indefinite since it is unclear how pre-set probabilities are randomly generated, since the phrase "pre-set" means determined before hand and thus are not random. Finally, the process of step c

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in claim 19 is indefinite since it is unclear how the probabilities W_{cat} , W_A , W_B , W_D and W_t actually relate to the determination of the compositions of formula I in each n_{th} generation.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over the article by McLeod et al.

This reference teaches a process for producing bimetallic catalyst by a Genetic Algorithm. The article teaches producing a first generation of bimetallic catalysts, which would fall within formula I; determining the fitness of the catalyst experimentally according to activity; selecting the compositions with the best fitness; varying the compositions of the selected compositions using the Monte Carlo method, which appears to be selection criteria in step c; and repeating the process until the fitness is maximized. The article teaches the first generation can number 36-14,400 catalyst compositions. While the article does not teach the percentage of each generation which is carried to the next step, one of ordinary skill in the art would have found it obvious to select, at the maximum, the half of the composition having the best fitness, i.e., the top 50%. This suggested range is that claimed. The reference suggests the claimed process.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melissa Koslow whose telephone number is (571) 272-1371. The examiner can normally be reached on Monday-Friday from 8:00 AM to 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo, can be reached at (571) 272-1233.

The fax number for all official communications is (571) 273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

cmk
August 4, 2006



C. Melissa Koslow
Primary Examiner
Tech. Center 1700